



Awareness and Attitude of Dental Interns and Postgraduates Regarding Dental Management of Pregnant Patients

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ABSTRACT

Oral hygiene is mandatory and is a part of complete wellbeing for a pregnant patient. The role of oral health care professionals becomes important in this scenario. The objective of the study was to evaluate the awareness among dental interns and postgraduate students in management of pregnant women in Dental OPD. The present cross-sectional study was conducted in a private dental college in Gurugram, Haryana which included 200 dental students i.e, interns (100) and postgraduate students (100). A self structured validated questionnaire was used. Detailed investigation was done. Statistical analysis was carried out using the Statistical Package for Social Sciences version 22 (SPSS Inc., IBM, Chicago, IL, USA). The study participants lacked adequate information in respect of management of pregnant patients in the dental office. 92% interns and 83% post graduates had treated pregnant patients. Only 57% interns and 48% post graduates agreed enough information was taught in BDS course about managing pregnant women in dental chair. 63% interns and 74% post graduates thought that steroids are contraindicated in pregnancy. Almost 80% participants believed that first trimester was unsafe to prescribe antibiotics. The results suggest that the understanding and expertise which dental students had about the basics of dental care of pregnant women is not adequate. A thorough training to improve the basics of the students about the clinical awareness toward different types of management required in pregnant patients is needed.

Keywords: Awareness, Dental students, Oral health, Pregnancy

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INTRODUCTION

Pregnancy is a very important time in the life of a mother. Maintaining good oral hygiene and health is necessary for good overall health of the baby and mother [1]. A women's body undergoes a wide variety of changes during pregnancy. The hormonal changes are responsible for most of the systemic and oral manifestations seen during pregnancy. Thus, the dentists should be aware of the physiological and pathological changes occurring in the women's body during pregnancy [2]. Moreover, an association has been established between bacterial transmission from the mother to the fetus and incidence of early childhood caries in the baby [1]. Many complications in pregnancy have also been associated with poor oral hygiene. Dental pain and infections, if left untreated by the dentist may lead to use of many over the counter pain relievers that are contraindicated in pregnancy. This will be harmful to the developing fetus. Hence, it is essential for the dentists to gain knowledge in context of early diagnosis and prompt dental treatment of pregnant patients [3].

Most of pregnant patients are apprehensive to seek dental care as it is believed that dental treatment poses potential risks during pregnancy. A dentist who is himself or herself confident of his or her knowledge and skills will not scruple in managing a pregnant patient in the dental setting. Hence a dentist must be aware about the prevention, diagnosis, and treatment of oral diseases along with affair knowledge of the medications and their effects given to pregnant patients for systemic illness. However, sometimes treatment to the pregnant patients is deferred because of lack of knowledge of the treating physician³. There is lack of such exploratory studies which evaluate the awareness of dental graduates and postgraduates about the management of pregnant patients seeking dental treatment while on

Medication for systemic illness. Thus, the present study aimed to evaluate the awareness regarding management of dental cases of pregnant women in Gurugram, Haryana amongst Dental Interns and Postgraduates.

MATERIAL AND METHODS

A cross-sectional study was done among 200 Interns and Postgraduate dental students in Faculty of Dental Sciences, SGTU, Gurugram from June to August 2019. Ethical clearance was granted for the study by the Institutional Ethical Committee. All the mandatory approvals were taken from the officials of Dental college. Informed consent from the participants was obtained in writing once the procedure was explained to them. Convenience sampling technique was adopted. A total of 100 interns and equal number of postgraduate students were included in the study. Self structured questionnaire was used to elicit knowledge and practices regarding management of pregnant patients in dental OPD. The validity of the questionnaire was evaluated before its application using Cronbach's alpha internal consistency coefficient 0.85.

The study tool included demographic details and a self structured questionnaire. It contained questions regarding knowledge, attitude, and practices. The study proforma was distributed and collected back on the same day. The questionnaire was thoroughly examined for its completeness. The response rate was 100%. Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS) software for Windows version 22 (SPSS Inc., Chicago, IL, USA). Descriptive statistics were performed.

RESULTS

Out of the 200 participants, 100 were interns and 100 were post graduate students in the present study. There were 81 (40.5%) male and 119 (59.5%) female participants. (Table 1)

Table 1: Age and Gender-wise distribution of study participants

	Gender	N (%)	Mean±SD
Age	MALE	81 (40.5%)	24.04±2.57
	FEMALE	119 (59.5%)	24.57±2.65

p value= 0.159

When asked about whether they have performed checkup of pregnant patients, 99(99.0%) interns and 92(92.0%) post graduates responded as yes. About 92 (92.0%) interns and 83 (83.0%) post graduates have treated pregnant patients but 8 (8.0%) interns and 17 (17.0%) post graduates reported that they have never treated any pregnant patient. When the students were interrogated about their knowledge regarding whether steroids are contraindicated during pregnancy, 63 (63.0%) interns and 74(74.0%) post graduates answered yes whereas 37(37.0%) interns and 26 (26.0%) post graduates said no. For NSAIDs' contraindication during pregnancy 69 (69.0%) interns and 69 (69.0%) post graduates said yes and 31 (31.0%) interns and 31 (31.0%) post graduates said no. (Table 2)

Table 2: Question wise responses of study participants

S NO.	Questions	Postgraduates		Interns	
		Yes N(%)	No N(%)	Yes N(%)	No N(%)
1.	Have you done checkup for any pregnant patient?	92 (92.0%)	8 (8.0%)	99 (99.0%)	1 (1.0%)
2.	Have you treated any pregnant patient	83 (83.0%)	17 (17.0%)	92 (92.0%)	8 (8.0%)
3.	Are steroids contraindicated during pregnancy?	74(74.0%)	8 (8.0%)	63 (63.0%)	20(20.0%)
4.	Are NSAIDs contraindicated during pregnancy?	69 (69.0%)	21 (21.0%)	69 (69.0%)	21 (21.0%)
5.	Is it advised to use antibiotics when no other treatment option is available?	70 (70.0%)	17 (17.0%)	61 (61.0%)	21 (21.0%)
6.	Is first trimester a safe period to prescribe antibiotics?	18 (18.0%)	65 (65.0%)	20 (20.0%)	65 (65.0%)
7.	Is it better to choose single prescriptions over polypharmacy?	74 (74.0%)	11 (11.0%)	76 (76.0%)	12 (12.0%)
8.	Are dental radiographs contraindicated in pregnancy?	84 (84.0%)	10 (10.0%)	83 (83.0%)	7 (7.0%)
9.	Is it safe to use nitrous oxide during pregnancy?	21	61	21	49

		(21.0%)	(61.0%)	(21.0%)	(49.0%)
10.	Do you think lectures and books are your prime source of knowledge?	68 (68.0%)	31(31.0%)	68 (68.0%)	31(31.0%)
11.	Do you educate the pregnant patients regarding the oral health?	88 (88.0%)	12 (12.0%)	85 (85.0%)	15 (15.0%)
12.	Do you think that enough information was taught at BDS course about managing pregnant women in dental chair?	48 (48.0%)	52 (52.0%)	57 (57.0%)	43 (43.0%)
13.	Do you avoid treating pregnant women due to lack of knowledge?	19 (19.0%)	80 (80.0%)	26 (26.0%)	74 (74.0%)
14.	Is it safe to use amalgam restoration in pregnant patients?	51 (51.0%)	41 (41.0%)	57 (57.0%)	27 (27.0%)
15.	Is second trimester a safe period to treat pregnant patients?	94 (94.0%)	3 (3.0%)	96 (96.0%)	1 (1.0%)
16.	Is gingivitis the most common oral manifestation in pregnant women?	81 (81.0%)	17 (17.0%)	79 (79.0%)	17 (17.0%)
17.	Is tetracycline safe to be administered during pregnancy?	3 (3.0%)	91 (91.0%)	3 (3.0%)	90 (90.0%)

Regarding second trimester being a safe period to treat pregnant patients, about 96 (96.0%) of interns and 94 (94.0%) of post graduates answered yes while 4 (4.0%) interns and 6 (6.0%) post graduates said no. When asked if the use of antibiotics is recommended, when no other treatment option is available for a pregnant patient, 61 (61.0%) interns and 70 (70.0%) post graduates answered yes and 39 (39.0%) interns and 30 (30.0%) post graduates answered no. While answering whether the first trimester is a safe period to prescribe antibiotics, 20 (20.0%) interns and 18 (18.0%) post graduates agreed whereas 80 (80.0%) interns and 82 (82.0%) post graduates disagreed. Single prescription was the choice of answer for 76 (76.0%) interns and 74 (74.0%) post graduates over polypharmacy which was answered by 24 (24.0%) interns and 26 (26.0%) post graduates respectively. Question on administration of tetracycline during pregnancy was also asked for which most of the interns 97(97.0%) and post graduates 97 (97.0%) said no whereas 3 (3.0%) interns and 3 (3.0%) post graduates said yes. (Table 2)

Nearly 83 (83.0%) interns and 84 (84.0%) post graduates answered that dental radiographs are contraindicated in pregnancy whereas 17 (17.0%) interns and 16 (16.0%) post graduates answered in the negative. 21 (21.0%) interns and 21 (21.0%) post graduates believe that it is safe to use nitrous oxide during pregnancy while 79 (79.0%) interns and 79 (79.0%) post graduate do not agree. (Table 2)

While evaluating their clinical knowledge, they were asked whether use of amalgam restoration in pregnant patients was safe, 57 (57.0%) interns and 51 (51.0%) post graduates responded yes while 43 (43.0%) interns and 49 (49.0%) post graduates responded no. Most of the interns 79 (79.0%) and 81 (81.0%) post graduate students agreed that gingivitis is the most common oral manifestation in pregnant women while interns and post graduates. On asking about whether they educate the pregnant patients regarding the oral healthcare and hygiene, most of the interns, 85 (85.0%) and post graduates, 88 (88.0%) answered yes whereas 15 (15.0%) interns and 12 (12.0%) post graduates answered no. They were also questioned if they avoid treating pregnant patients due to lack of knowledge and most of the interns 74 (74.0%) and 81 (81.0%) post graduates responded no but 26 (26.0%) interns and 19 (19.0%) post graduates responded yes. Students were asked about whether they think that enough information was taught in BDS course about managing pregnant women in dental chair. It was found that only 57 (57.0%) interns and 48 (48.0%) post graduates agreed. 68 (68.0%) interns and 68 (68.0%) post graduates consider textbook and lecture as their prime source of knowledge about dental management of pregnant women. (Table 2)

DISCUSSION

Dental professionals often feared treating pregnant patients due to their insufficient knowledge on the subject. Hence, it was of prime importance that the dental students be well equipped and aware to manage such patients when they graduate. Almost half of the study participants thought that the BDS curriculum did not impart proper knowledge about providing care for pregnant patients. Our results were similar to studies conducted previously where students felt that the coursework was insufficient to provide complete know-how of the management of pregnant dental patients. [4],[5] Therefore, the

knowledge of interns and postgraduate students regarding preventive and curative dental care to be rendered to gravid females was analyzed in this study.

In our study, most of the students had come across and treated a pregnant patient during their time in the clinics. However, the postgraduates were slightly better than the interns in having knowledge about the dental management of these patients. This may be attributed to their additional years of experience after graduation, and consequently more interaction with pregnant patients. Nonetheless, the results of the study may lack external validity.

About two-thirds of the participants thought that it was safe to prescribe antibiotics to pregnant females. Most antibiotics that are routinely prescribed by dental practitioners, such as amoxicillin and metronidazole, fall under category B of the FDA classification of drug safety for use in pregnancy and may be prescribed to pregnant patients [6, 7]. However, broad spectrum antibiotics such as, doxycycline and tetracycline which are used commonly in periodontal diseases, [8] are category D drugs,[7]and thus should not be used for pregnant patients. Majority of the participants believed that the first trimester was unsafe to prescribe routine antibiotics. However, many studies have established the safety of antibiotics in the first trimester and they have been given the status of category B drugs at all times during pregnancy [6, 7, 9]. Most students favored the use of single prescription over polypharmacy while prescribing expecting mothers which is similar to the findings of previous studies [10].

More than half of the students believe that steroids are contraindicated in pregnancy. Literature review shows that there is an increased risk of cleft lip with or without palate with corticosteroid use in pregnant patients. However, studies have established that steroids are essential in patients suffering from various acute and chronic illnesses such as autoimmune diseases [11]. Topical and oral steroid medications such as prednisolone have been successfully used in treating pregnant females without damage to the fetus. They are categorized as FDA class C drugs, and hence used after assessing the risk-benefit ratio. [12]One-third of the students also believed that it was safe to prescribe NSAIDs during pregnancy. The FDA has advocated that NSAIDs should not be used beyond 20 weeks in pregnancy as they can lead low levels of amniotic fluid which is harmful to the fetus. Further, their administration beyond 30 weeks could lead to premature closure of ductus arteriosus and heart defects in the fetus [13].

Majority of the students were of the view that diagnostic dental radiographs were contraindicated in pregnancy. However, studies have found that diagnostic x-rays taken with proper precautions such as high-speed films, lead aprons, and use of proper processing techniques to reduce exposure as much as possible will prevent the fetus against needless radiation exposure. Results similar to ours were obtained in another study which evaluated the awareness of general dentists regarding radiography in pregnant women. [14]Most participants were of the opinion that nitrous oxide is not safe in pregnancy. However, it is a pregnancy category C drug, and its use in pregnancy should be based on the assessment of risk-benefit ratio.[15]Most students agreed that the use of tetracyclines is contraindicated in pregnancy similar to other studies. They are categorized as FDA category D drugs, and hence their use is not advocated in pregnancy [16, 17].

Gingivitis is the most common oral manifestation seen in pregnancy. Due to increased levels of various hormones in the female body during pregnancy, there is deterioration of periodontal health. These hormonal imbalances lead to gingival inflammation and enlargement [18]. Most of the students opined that the statement was true. Over half of the participants thought that amalgam restorations were safe in pregnancy. However, research has established an integral connection between the number of amalgam restorations in the pregnant mother's oral cavity and the mercury levels in the blood of the umbilical cord. There has been evidence that amalgam restorations done during pregnancy can lead to high levels of mercury exposure to the developing fetus as well as the mother [19].

Most participants agreed that second trimester was the safest period for treating pregnant patients. Elective treatment should not be performed during this period. Further, active dental treatment should be avoided during second half of the third trimester. Although it poses no risk to the fetus but may be a cause of discomfort to the mother. Second trimester is thus, the safest for providing active treatment to the pregnant mother [20, 21].

Majority of the study participants encouraged and guided patients on maintaining oral hygiene and the importance of oral health maintenance during the gestation period. It is suggested to provide sufficient training to the student during their under and postgraduation courses regarding management of pregnant patient in dental OPD.

CONCLUSION

The results suggest that the knowledge and information of dental students in the fundamentals of dental management of pregnant women is not satisfactory. Improvement is needed to increase the clinical awareness of students toward different types of management required in pregnant patients.

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